

General

Title

Maternal and newborn care: rate of episiotomy in women who had a spontaneous vaginal birth.

Source(s)

Maternal newborn dashboard - key performance indicator criterion reference guide, version 1.3. Ontario (Canada): Better Outcomes Registry and Network (BORN) Ontario; 2014 Jul 2. 12 p.

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Process

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the rate of episiotomy in women who had a spontaneous vaginal birth.

Rationale

Episiotomy is an obstetric practice employed during childbirth in which the vaginal opening is enlarged by a surgical cut to the perineum with scissors or scalpel (Carroli & Mignini, 2009). Historically, episiotomy has been performed prophylactically to prevent severe vaginal tears and to facilitate an easier/faster birth of the baby (Carroli & Mignini, 2009; American College of Obstetricians and Gynecologists [ACOG], 2006). Other suggested maternal benefits include the preservation of muscle relaxation of the pelvic floor leading to improved sexual function, reduced risk of faecal and/or urinary incontinence, and improved surgical healing (i.e., subsequent to a clean surgical incision and repair, rather than a potential 3rd or 4th degree laceration). For the neonate, it is suggested that a faster birth may be protective against the risks of a prolonged second stage of labour (greater than 120 mins), which may lead to fetal asphyxia, cranial trauma, cerebral haemorrhage and mental retardation (Carroli & Mignini, 2009). Alternatively however,

hypothesized adverse risks may include extensions of the episiotomy to 3rd or 4th degree tears, unsatisfactory anatomic results (e.g., skin tags, vaginal prolapse, recto-vaginal fistula), increased blood loss and haematoma, pain and edema of the episiotomy region, infection, sexual dysfunction, anal sphincter dysfunction, and dyspareunia (Carroli & Mignini, 2009; ACOG, 2006).

What is interesting about episiotomy is how the procedure became routine despite limited to no data supporting its effectiveness. Although it has been cited in the literature for more than 300 years, the practice was not widely employed until the mid-20th century when there was an increased focus to have women give birth in the hospital and greater medical involvement in the birthing process (Carroli & Mignini, 2009; ACOG, 2006). Although knowledge surrounding the benefits and harms of episiotomy has grown substantially since then, rates of episiotomy remain highly variable (e.g., 9.7% in Sweden vs. 100% in Taiwan) (Carroli & Mignini, 2009). In Ontario, the rate of episiotomy ranges from 7% to 31% (Dunn et al., 2011). Given such wide practice variations, it has been suggested that the primary drivers of episiotomy use relate more to regional and individual circumstances (local professional norms, experiences in training, and individual provider preference) than specific variation in the physiology of vaginal birth (Viswanathan et al., 2005).

Evidence for Rationale

American College of Obstetricians-Gynecologists. ACOG Practice Bulletin. Episiotomy. Clinical Management Guidelines for Obstetrician-Gynecologists. Number 71, April 2006. *Obstet Gynecol.* 2006 Apr;107(4):957-62. [PubMed](#)

Carroli G, Mignini L. Episiotomy for vaginal birth. *Cochrane Database Syst Rev.* 2009 Jan 21; (1):CD000081. [PubMed](#)

Dunn S, Wise M, Johnson L, Anderson G, Ferris L, Yeritsyan N, Croxford R, Fu L, Degani N, Bierman AS. Chapter 10: reproductive and gynaecological health. In: Bierman AS, editor(s). *Project for an Ontario Women's Health evidence-based report: Volume 2.* Toronto (Ontario): 2011 Feb. p. 166.

Konnyu K, Grimshaw J, Moher D. What are the maternal and newborn outcomes associated with episiotomy during spontaneous vaginal delivery?. Ottawa (Canada): Ottawa Hospital Research Institute; 2011 Jul. 11 p. (KTA Evidence Summary; no. 13).

Viswanathan M, Hartmann K, Palmieri R, Lux L, Swinson T, Lohr KN, Gartlehner G, Thorp J Jr. The use of episiotomy in obstetrical care: a systematic review. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2005 May. 297 p. (Evidence report/technology assessment; no. 112).

Primary Health Components

Spontaneous vaginal birth; episiotomy

Denominator Description

Total number of women who had spontaneous vaginal birth (see the related "Denominator Inclusions/Exclusions" field)

Numerator Description

Number of women who had an episiotomy (see the related "Numerator Inclusions/Exclusions" field)

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A clinical practice guideline or other peer-reviewed synthesis of the clinical research evidence

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

A systematic review of the clinical research literature (e.g., Cochrane Review)

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

- Episiotomy represents a unique obstetrical practice in that it became a part of accoucheurs' repertoire of interventions based on its theoretical value rather than any demonstrated worth, and has remained a conventional practice (more or less) despite strong empirical evidence disfavoring its use.
- Two systematic reviews based on thousands of women evaluated in multiple randomized controlled trials (RCTs) have unequivocally determined the practice of restrictive episiotomy during vaginal birth to be better than routine episiotomy with respect to numerous maternal outcomes.
- There is insufficient evidence to support the practice of episiotomy for improving neonatal outcomes.
- When episiotomy is 'indicated' there is insufficient evidence to know the relative value of midline vs. mediolateral types of incisions.

Refer to *What are the Maternal and Newborn Outcomes Associated with Episiotomy During Spontaneous Vaginal Birth?* for a summary of evidence around the risks and benefits to mothers and newborns subsequent to practice of episiotomy during spontaneous vaginal birth. The report's intention is to support a quality improvement initiative that seeks to reduce rates of episiotomy among women who having a spontaneous vaginal birth in Ontario.

Evidence for Additional Information Supporting Need for the Measure

Konnyu K, Grimshaw J, Moher D. What are the maternal and newborn outcomes associated with episiotomy during spontaneous vaginal delivery?. Ottawa (Canada): Ottawa Hospital Research Institute; 2011 Jul. 11 p. (KTA Evidence Summary; no. 13).

Extent of Measure Testing

To validate the seven potential indicators as being appropriate for use throughout the province, the authors first extracted data from the BORN Information System (BIS) for fiscal year 2009 to 2010 to assess historical and current performance on these indicators across Ontario's 14 health regions (Local Health Integration Networks). Simultaneously, evidence summaries on each of the potential indicators were developed in collaboration with the Knowledge to Action Research Centre at the Ottawa Hospital Research Institute (Thielman et al., 2011; Konnyu, Grimshaw, & Moher, "What are the drivers," 2010; Konnyu, Grimshaw, & Moher, "What are the maternal," 2011; Konnyu, Grimshaw, & Moher, "What is known," 2011; Khangura, Grimshaw, & Moher, 2010). This group, which has expertise in the review and synthesis of literature to support evidence-informed health care decision-making, assisted with determining the level of scientific evidence to support each indicator. For example, the evidence summary on early term repeat Caesarean section (i.e., before 39 weeks' gestation) in a defined population

determined that as a result of this practice there were indeed objective risks to babies that could be reduced by delaying delivery.

Following review of the data and evidence summaries, the committee removed one indicator and refined some of the others, leaving six. In five of the six, the potential for improvement in rates was obvious. The remaining indicator (rate of screening for group B streptococcus) is currently satisfactory throughout all health regions of the province; however, the committee felt it was important at the outset to have the dashboard reflect not only performance areas requiring improvement, but also areas in which performance was good.

Evidence for Extent of Measure Testing

Khangura S, Grimshaw J, Moher D. What is known about the timing of elective repeat cesarean section?. Ottawa (Canada): Ottawa Hospital Research Institute; 2010 May. 11 p.

Konnyu K, Grimshaw J, Moher D. What are the drivers of in-hospital formula supplementation in healthy term neonates and what is the effectiveness of hospital-based interventions designed to reduce formula supplementation?. Ottawa (Canada): Ottawa Hospital Research Institute; 2010 Oct. 13 p. (KTA Evidence Summary; no. 8).

Konnyu K, Grimshaw J, Moher D. What are the maternal and newborn outcomes associated with episiotomy during spontaneous vaginal delivery?. Ottawa (Canada): Ottawa Hospital Research Institute; 2011 Jul. 11 p. (KTA Evidence Summary; no. 13).

Konnyu K, Grimshaw J, Moher D. What is known about the maternal and newborn risks of elective induction of women at term?. Ottawa (Canada): Ottawa Hospital Research Institute; 2011 Mar. 13 p. (KTA Evidence Summary; no. 10).

Sprague AE, Dunn SI, Fell DB, Harrold J, Walker MC, Kelly S, Smith GN. Measuring quality in maternal-newborn care: developing a clinical dashboard. J Obstet Gynaecol Can. 2013 Jan;35(1):29-38. [PubMed](#)

Thielman J, Konnyu K, Grimshaw J, Moher D. What is the evidence supporting universal versus risk-based maternal screening to prevent group B streptococcal infection in newborns?. Ottawa (Canada): Ottawa Hospital Research Institute; 2011 Oct. 11 p. (KTA Evidence Summary; no. 14).

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Hospital Inpatient

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Single Health Care Delivery or Public Health Organizations

Statement of Acceptable Minimum Sample Size

Unspecified

Target Population Age

Unspecified

Target Population Gender

Female (only)

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Health and Well-being of Communities

Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Staying Healthy

IOM Domain

Effectiveness

Data Collection for the Measure

Case Finding Period

Three-month reporting period

Denominator Sampling Frame

Patients associated with provider

Denominator (Index) Event or Characteristic

Institutionalization

Therapeutic Intervention

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions

Total number of women who had spontaneous vaginal birth

Note: The key performance indicators (KPIs) criteria are defined by the pertinent BORN Information System (BIS) data elements that are used to calculate the rates and proportion values for the respective Maternal Newborn Dashboard KPI. As well, pick-list values for each data element, when selected, will result in a patient record to be either included or excluded for a given KPI based on the KPI criterion definition.

Refer to the original measure documentation for a complete list of KPI criteria.

Exclusions

Unspecified

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions

Number of women who had an episiotomy

Note: Refer to the original measure documentation for a complete list of key performance indicator (KPI) criteria.

Exclusions

Unspecified

Numerator Search Strategy

Institutionalization

Data Source

Registry data

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

BORN Information System (BIS) Maternal Newborn Dashboard (MND)

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a lower score

Allowance for Patient or Population Factors

not defined yet

Standard of Comparison

not defined yet

Prescriptive Standard

Target:	Less than 13%
Warning:	13% to 17%
Alert:	Greater than 17%

Evidence for Prescriptive Standard

Sprague AE, Dunn SI, Fell DB, Harrold J, Walker MC, Kelly S, Smith GN. Measuring quality in maternal-newborn care: developing a clinical dashboard. J Obstet Gynaecol Can. 2013 Jan;35(1):29-38. [PubMed](#)

Identifying Information

Original Title

KPI 2 - Rate of episiotomy in women who had a spontaneous vaginal birth.

Measure Collection Name

Maternal-Newborn Care Performance Indicators

Submitter

Better Outcomes Registry and Network (BORN) Ontario - State/Local Government Agency [Non-U.S.]

Developer

Better Outcomes Registry and Network (BORN) Ontario - State/Local Government Agency [Non-U.S.]

Funding Source(s)

Better Outcomes Registry and Network (BORN) Ontario is funded by the Ontario Ministry of Health and Long Term Care.

Composition of the Group that Developed the Measure

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Financial Disclosures/Other Potential Conflicts of Interest

None declared.

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2014 Jul

Measure Maintenance

Unspecified

Date of Next Anticipated Revision

Unspecified

Measure Status

This is the current release of the measure.

The measure developer reaffirmed the currency of this measure in April 2016.

Measure Availability

Source not available electronically.

For more information, contact BORN Ontario at 401 Smyth Road, Ottawa, ON, K1H 8L1; Phone: 613-737-7600 x 6022; Web site: www.bornontario.ca/en/ ; E-mail: info@bornontario.ca.

NQMC Status

This NQMC summary was completed by ECRI Institute on January 26, 2015. The information was verified by the measure developer on April 21, 2015.

The information was reaffirmed by the measure developer on April 4, 2016.

Copyright Statement

No copyright restrictions apply.

Production

Source(s)

Maternal newborn dashboard - key performance indicator criterion reference guide, version 1.3. Ontario (Canada): Better Outcomes Registry and Network (BORN) Ontario; 2014 Jul 2. 12 p.

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